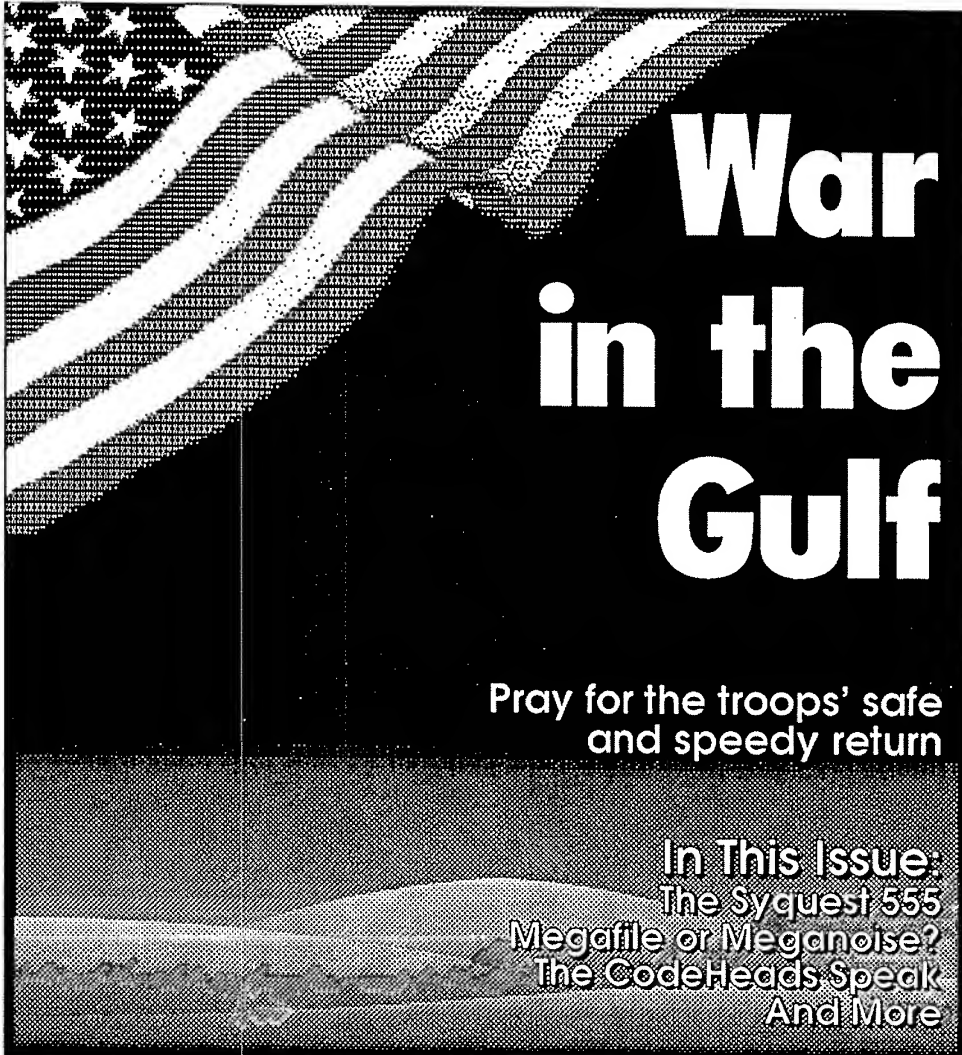


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In This Issue:
The Syquest 555
Megafile or Meganoise?
The CodeHeads Speak
And More

Newsnotes

March, 1991 • Vol. 2, No. 3

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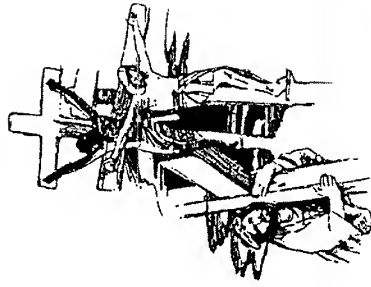
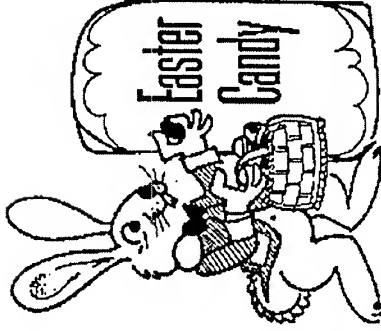
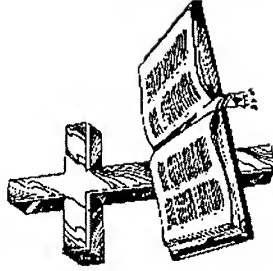


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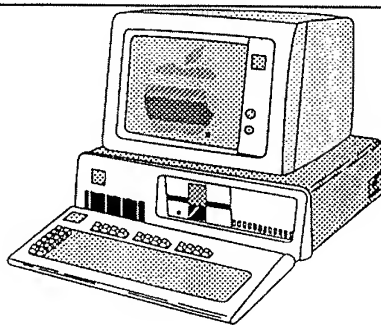
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SuperCharger
Review (honest!)



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Ch-Ch-Changes

Well, the Newsnotes has again evolved. We've shrunk the format, but not the contents. Well, at least we're not planning on cutting the contents, but that's at least partially up to you.

Editing and writing the Newsnotes is a hobby, and as such it occasionally has to take a back seat to my real job, which is technical writing and training. I've been real, real busy this last month, and as a result there wasn't time to put the usual 'spit-n-polish' on this issue.

This month's format change took up most of the time I normally devote to writing columns for this newsletter, and as a result there aren't the

normal columns you've come to expect. I'll hopefully have more time next month, and all will be back to normal.

I hope the new format meets with your approval, and as always, your input is appreciated. Pardon me, but I've got a very well-deserved cat nap I want to take... 



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This publication is created using an Atari Mega ST2 computer with a monochrome monitor and a QMS-PS810 Postscript laser printer. PageStream is used for page layout, WordPerfect ST is used to edit articles, and TypeStyler (a Macintosh program run via Spectre GCR) is used for most headlines.

NOAH NEWS

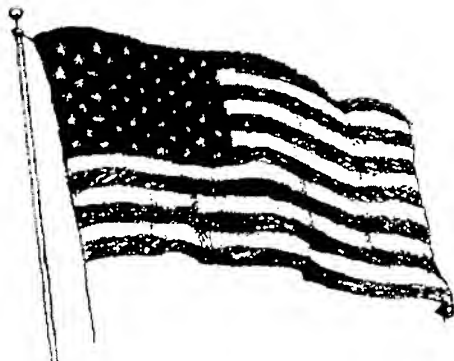
The past few weeks have been like a trip into "The Twilight Zone" for most of us. Probably the one thing I would have never guessed to happen in my or anyone else's lifetime, war, happened. True, it's a long way from home, and after the first few days of 24 hour news updates and pictures we have entered into almost a total blackout, comparatively speaking, the cold fact remains that it's still war.

I know some people over there and also have some friends who have relatives in the service who have been moved over there too. This sure makes any computer talk seem sort of frivolous to say the least. Well, not quite. If it weren't for computers this war would be costing us where it would hurt the most, in lives of our people. Between the Partiotis, the Smart Bombs, etc., we have created a scenario which is both good and bad. Good in the fact that with all the modern tools available now we have the ability to save the lives of our own soldiers through the use of early warning and a defense mechanism equaled by none on the face of this earth.

These same technological miracles also make the taking of enemy lives something that could become very easy for even the most peace loving squeamish person in the world. It is no longer necessary to 'see' the person you are aiming at in order to kill them. No longer do you have to 'hear' their cries for mercy or see their blood draing from their bodies. Don't get the wrong idea here, I believe this to be a just war for the allied nations. Saddam is one crazy asshole without whom the world could do nicely.

Amidst all the atrocities of this war is one thing I ask all of you to bear in mind... These are our men and women over there doing a JOB our country asked of them. Nothing more. Nothing less. I had two brothers serve in Vietnam and if nothing else happens differently, our people have to be welcomed home by a loving country who appreciates their sacrifices in the last 6 or so months. These people are HEROES! No ifs ands or buts about it. Put the yellow ribbon and the flag anywhere you want. The important thing is to feel it and show it to these brave people. Whatever religion, if any, that you are, keep these folks in your prayers and thoughts. I know I will.

Doug Novak



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Please Pardon The Dust...



**We're remodeling the
Newsnotes!**



(Our monthly columns will
hopefully return next month!)

Disk of the Month

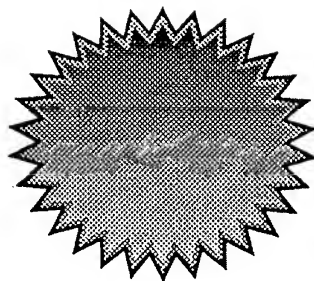
This month's disk is filled with requested utilities for both a floppy and a hard drive. These should make life easier for almost everyone out there from those who are serious 'gamers' to those who are 'serious' productivity people.

Enjoy this one and rest assured that it will be included in the N.O.A.H. PD Disk Library for future sale to all non-members also.

N.O.A.H. March 1990

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Gadgets & Gizmos



44 Meg Removable Hard Drives: The Hard Disks of the Future!

by Erik Williams

The following article appeared in the October issue of The Blitter Beacon, the newsletter of The Central Florida ST Users Group (CFSTUG). Permission is given to re-print it as long as this notice, the author's name and the article are printed unchanged.



Hard drives are one of those peripherals that are well nigh indispensable once you have one of these cranky beasts attached to your computer. They offer unbelievable access times, tremendous storage, versatility, the works! Well, there is a new breed of hard disk out there that blows a traditional hard disk out of the water. Move over shoeboxes, the 44 meg removables are here!

A Little About Hard Disks

When choosing a hard disk, there are some technical terms that one has to be aware of to make an intelligent choice. One of these terms is average access time. This little statistic tells us relatively how fast the hard disk can access information stored on it. It is in units of milliseconds, the average hard disks of today having an average access time of 40-65 milliseconds. There are some hard disks (say, a Seagate 296N) that can run faster than that 40 millisecond barrier, but they are generally a little more pricey for the speed.

Another little term that is tossed around is interleave. This is a very important characteristic of a prospective drive. It is always a ratio, with a 1:1 interleave being the fastest. This came about a while back when hard disks were really new things and the computers had not yet caught up with the incredible data transfer speeds that the hard disk can achieve. So, there had to be a way to slow the hard disk down so that the data transferred to the computer would not be garbled. So, some bright boy figured out that by formatting the hard disk in such a way that it would take longer for the hard disk to access the data, then the computer would not get lost.

That is why a lot of IBM AT's and their clones will format a hard disk at 2:1 or 3:1 interleave. These computers, for the most part, were not built to handle the speeds of the hard disk. However, on the ST, we have that nice DMA port that can transfer a meg a second, so most of the drives that can be used on a ST will be formatted 1:1 (which allows the disk to transfer approximately 518-550K per

second). However, there are some drives out there (again, the aforementioned 296N) that has a ROM set that will only allow it to be formatted at 2:1 interleave (because most of these drives go into those AT's). So, be very careful about the interleave factor. Now that all that technical mess is behind us, let's talk about the 44 meg drives...

What's so special about them anyway?

Most hard disks available for the ST are fixed mechanisms, meaning that once you have bought it, that is all the storage it will provide unless you have the space, controller, and host adaptor to handle another mechanism. If you buy a Supra 30 meg shoebox, then 30 megs will be all that you will ever see out of that shoebox.

That is where the important difference between the fixed media drives and the new removable media drives. Unlike their shoebox cousins, there is no top limit to how much storage you may have (except your wallet!). If you fill one of these cartridges up, then just plunk another \$100 down, and you have another 44 megs (while a comparable mechanism upgrade would cost about \$300- 400 for the mechanism alone. If you need other parts, more moolah...). However, like the shoeboxes out there, the 44 meggers are true hard disks, and perform as such. They have access speeds that will knock your socks off. Plus, there are some other nice features, too.

More Technical Data

What really makes these drives so attractive is that they are faster than the normal hard disk. All of the 44 meg systems (whether it is Atari's or a mail order vendor's) will be based around the Syquest 555 mechanism. This mechanism sports a convenient park switch right in the middle of it, a release lever (that also logs in a new cartridge), and access times from 20-25 milliseconds! That is almost twice as fast as most of the ST hard disks (unless you have opted for a nice big mechanism in the 65 meg range) avail-

able today!

The cartridges themselves look like 5.25" disks, except that the cartridges are a whole lot thicker. Each cartridge will hold 44 megs, partitioned however you deem necessary (four eleven meg partitions will work fine, or more if you want to really segregate your applications). They will format at 1:1 interleave, and transfer on average about 515K per second. Add to that all of those AUTO folder programs that speed up TOS and GEMDOS, and the hard disk seems to go even faster than that (FATSPD, Pinhead 1.2, etc.). TOS 1.4 should really fly with the 44 meg drives.

But, there is a catch!!

There is only one limitation. At this time, only the ICD hard disk utilities (version 3.41) supports the removable media. The problem arises when inserting a new cartridge. TOS still thinks that the old cartridge is in there and writes to it as if it were the old cartridge. Basically, your new cartridge has become silicon salad quite quickly.

ICD figured out a way around this. Whenever the Syquest returns a code to the host adaptor to the effect of "I have a new cartridge in me, log it in!!", a short message of "<Disk Change>" flashes in the upper right corner, and TOS logs in the statistics of the new disk. Saves having to reboot the machine every time.

The real catch is, that the ICD utilities will not work in a system that does not have an ICD host adaptor. The 44 meg drives that are being marketed right now are built around the ICD host adaptor and have the requisite software to handle the disk changes. Atari may be devising their own code for use with the Megafile 44 (yet to be released) and a new version of HDX should be in order.

So I, like, have this drive.

Now what?

Putting a new hard disk in the system is no difficult matter. If the 44 megger is your first and only drive, then it should be a quite simple plug and chug operation.

The drive should already come pre-configured for SCSI (Small Computer System Interface) 0, LUN (Logical Unit Number) 0. SCSI 0, LUN 0 is the device that TOS will boot from if it detects a presence on the DMA port. Most drives these days are configured this way, and should also be preformatted (in this case, the cartridge should already be partitioned and a data sheet should be in the package telling you how it was done and what partitions they are). All it takes, then is booting the hard disk, and then installing the requisite amount of drive icons to access all of the partitions. Then it is time to install your software on the hard disk and enjoy blazing new speeds.

It does tend to get a bit more difficult with systems that already have a hard disk sitting there being SCSI 0, LUN 0. So, that is what most of the rest of this article will detail. If you don't have two hard disks, you can ignore this and probably are missing nothing. However, if you want to stick around, in case you are planning on sticking another mechanism next to your 44 megger, then read on!

The Hard Disk Peace Talks: Two or more mechanisms...

This was the procedure that I went through to install the 44 meg drive behind a 30 meg SupraDrive. I was planning to keep the Supra as my boot disk and use the 44 meg drive as the last four partitions. So, a few minutes after receiving my 44 meg drive (my Supra had crashed two weeks earlier, and was already back in operation), I had the case opened and was looking about.

The idea was to change the ID of the 44 meg drive so that it would not conflict with the SupraDrive when it decided to boot. Make sure that you are doing this with the drive powered down. Coulomb's Law is not a nice thing to be on the receiving end of... On the back of most hard disks, you will notice a row of pins toward the bottom and center of the mechanism with a jumper hanging there. Normally, it is just sitting there on one of

the pins, which makes the drive think it is SCSI 0, LUN 0. I had to change the position of the jumper slightly so that instead of it resting on just one pin, it was shorting out both the pin it was on and the one directly below it. If you want to check to see if you have the ID jumpered correctly (I wanted SCSI 1, LUN 0 because the Syquest has its own controller, thus it needs a different SCSI number), just run ICD's MAKEPARK.PRG. It will tell you all of the IDs of the drives currently online and if you have not messed with your other drive, then it should show the new mechanism like a sore thumb.

After I had the drive ID set so that both hard disks would not try to boot at the same time (let me tell you, that was not a pretty sight! <wicked grin>), I went ahead and closed the case back up and rearranged the system to accommodate it. Now, the fun began, because I had to start installing the ICD boot software on my Supra. Which was a problem considering that there was already stuff on the Supra, and its own boot software, etc. There had to be some serious choices made here as to who would rule the booting kingdom. The Supra software did not stand a chance, and after I had backed up everything that was on the drive at the time (which wasn't saying much), the Supra got reformatted.

ICD's format software is fast and user friendly. I had the Supra reformatted in no time, all those pesky bad sectors that had been plaguing my E:\ partition were a thing of the past, and now, the removable drive could now be used in the system. I also formatted both of the cartridges to new sizes (eleven megs a partition, four partitions). Now, all it took was installing the new boot software (ICD 3.41, which did not last long when I managed to snag ICD 4.04. If you have an ICD, get it! It is worth the price of admission...). Next, the boot software and NeoDesk were installed, and then the rest of the software. Voila! Where there used to be 32 megs, there were now 75 megs online at any give time. The project was a complete success.

More Miscellaneous Things About The 44 Megger

One of the things that was a real pain with hard disks were that you could not write protect them, unless you had the Michtron software write protect. The Syquest cartridges come with write protect "disks" that you turn, and the mechanism will not write to the cartridge. It is really a neat little quirk of new hard drive technology.

Also, when you are installing your 44 meg drive, make sure you read all of the documentation before you stick the drive into the system. It will save you a lot of headaches later down the road, especially when the thing does not work right away ("Gee, I should have remembered that, it was so SIMPLE...").

Finally, if your 44 megger has an ICD host adaptor, then by all means, use ICDBOOT.SYS on your disk (especially the new version 4.04, it really screams!). However, if your 44 meg drive does not have an ICD host adaptor, then stay away from the ICD utilities, or else you will lock up your system (ICD checks to see that at least one ICD host adaptor is in the system, which in mine, it checks the second SCSI address, and then continues the boot).

44 meg drives are such wonderful mechanisms. After using one, you might well wonder how you got along without one! ♫



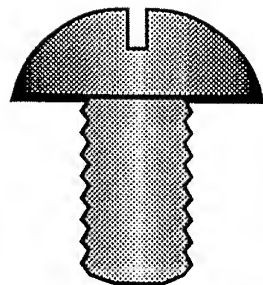
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Tricks 'n Tips



Megafile or Meganoise?

(Silencing A Noisy Fan)

by John Derner

Many ST users started out with bare bones systems. For me it was a plain jane 520ST. Eventually I fell prey to low cost RAM (I thought) and a hard drive. I used to mushroom away for hours in my "closet" and compute. Solitude for sure.

But my quiet world was shaken when I first fired up my new Megafile30. The Atari drive was extremely loud. I took it back to the authorized dealer where I bought it and they politely tried it out. Their response was something like "what noise?". Of course they had it connected to a Mega4 and SLM printer which were both as noisy, to me. I thanked them and took it home.

I thought about the situation for the balance of the 90 day warranty period. By time it was up, I had developed a plan. The plan was to take the unit apart and first determine if the noise was the fan or the hard drive itself. Running them separately proved that most of the noise was from the 2.25 inch fan that was crammed in there. It also seemed that the

restrictive fan outlet slots in the case could be part of the problem. The outlet "ribs" were then cut off. Trying the assembled drive again indicated a minor reduction in noise, but not enough. While the Megafile was disassembled, all pertinent specifications were recorded. The fan was a 12VDC unit, and it was rated at .15 AMP.

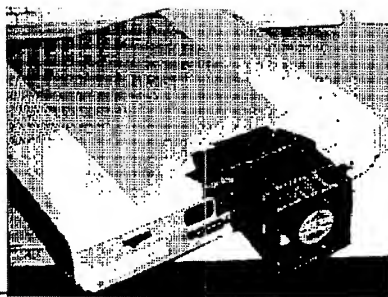
By now, a course of action had been developed. Buy a quieter fan and stick it into the case. It also seemed that a large diameter fan should be quieter than a small fan. At a local computer fair, there was a dealer selling high quality 3 inch fans for five dollars, and they were almost the right electrical specs. Of course I bought one.

With the Megafile apart and it's fan removed, the new fan was hot wired. The whole unit was fired up and WOW!..almost silence.

But, the new fan was bigger in diameter than the Mega's case is high. So a small "Shroud" was fabricated out of some very thin aluminum sheet (from an old electric dryer duct). The metal was wrapped around the fan and then duct

tape was applied. The shroud was then taped to the back side of the Mega's case. Silicone goop was also used to hold the works together. So now there is a "fan box" taped to the back of the Megafile.

The whole thing looks UGLY! But who cares, its QUIET! ♪



I.M.H.O.

(In My Humble Opinion)

CodeHead Software Speaks Out About The New TT Desktop

Atari's new TT computer has many new features not found on the ST. One of the most profound and unique changes is immediately apparent when you first boot up the TT...a greatly enhanced desktop.

The TT's new desktop is truly exciting, with many of the features that users have been wanting and seeking elsewhere since the ST first appeared in 1985. These include everything from custom icons for different files and folders to loading desktop setups from disk.

In fact, Atari has a version of the new desktop which loads from disk and runs on the ST. Unfortunately, they have announced that it is their decision not to release the disk-loaded version of the new desktop for the ST, stating as their reason that they don't wish to put those companies who make alternative desktops out of business.

This puts us at CodeHead Software in a rather awkward position. As one of the companies which markets an alternative desktop for the ST, we feel partially responsible for Atari's position regarding the new desktop. In deference to their rationale, we'd like to go on

record as being strongly in favor of their releasing a disk version of the new desktop. We feel it should be packaged with every ST/STe sold by Atari in the US and Canada.

Such a release could be a real boon to the ST, spawning a rebirth of a dying computer...something that could only benefit us all. When Atari released the ST in 1985 there was an excitement that flowed even into the PC and Macintosh arenas. Now after five years of stagnation, the ST could proudly display a new facelift and walk hand in hand with the TT back into the public eye. This resurgence would mean new buyers of Atari computers and new potential customers for *all* software developers.

We certainly don't want it on our conscience that the progress and possible rebirth of the ST was held back because of the two of us. Furthermore, an illegal and buggy version of the new desktop has begun to circulate through pirate channels. Atari, please don't allow the pirates to be the only ones using the new desktop. Release it to the public so that we may all benefit. We want our new ST desktop. ♪

John Eidsvoog
Charles F. Johnson
CodeHead Software

THE SST 68030 BOARD

By Dave Small

After all the work of the previous months, it gives me a lot of pleasure to finally announce the pricing and specs of the Gadgets "SST" 68030 accelerator board and memory expansion board. Readers of the Gadgets "Newsletter-Herald" will be receiving this same information (with more details) shortly; that newsletter is being duplicated now.

The pricing is structured around some rather expensive components. In these components, "Speed costs money—how fast do you want to go?". We wanted fair pricing, so we went with this approach.

I'm very, very pleased to tell you that, as I promised I would try, the board sells for well under \$1000. In fact, \$799 will get you started into life in the fast lane. Here's the pricing details:

Board: This is required, along with one of the three following options. This board has everything but the speed-sensitive components on it. It costs \$599.

It plugs in where your 68000 used to plug in; yes, you must remove your old 68000. The board has sockets for a 68030, 68881/68882 floating point unit, and most importantly, 8 sockets for SIMMs. You can plug in up to 8 1-megabyte SIMMs (about \$40 each) into the board, yielding 12 total megabytes in a Mega-4! (The board cannot be used as a simple memory expansion, without the 68030, however.)

Next, we give three options for processor. We strongly encourage you to buy your own RAM; it's inexpensive and we don't need to handle it, and have to pass on a price increase, to you.

Option A) is a 16 Mhz 68030. You add your own RAM (again, about \$40 per megabyte). You *must* add 4 megabytes at a time; this is because the RAM is configured as 32-bit RAM, with each SIMM

8 bits. This option is meant for the budget-minded buyer; you can get basically into the 68030, then add RAM as your budget allows. Also, you can increase the speed of the processor later. This option costs \$200; together with the board, it's \$799 total.

Option B) is a 16 Mhz 68030, with 4 megabytes of RAM already installed. In a Mega-4, this would give you 8 megabytes total of RAM. (I'm trying to emphasize that this RAM is *added* to what's in your machine, and does not replace your machine's RAM). This option is meant for people who don't want to bother with SIMMs, and costs \$460. So together with the board, it's \$1059 total. (As you can see, we're encouraging you to buy your own SIMMs.)

Option C) is the rock-and-roll option. This gives you a 32 Mhz 68030, a 68881 floating point processor, and 4 megs of RAM to which you can easily add another 4 megs, for \$800. Together with the board, this is \$1399. We may add more options later, as well!

The board design is by George Richardson; none of Jim Allen's 68030 board technology whatsoever is used. Many people don't know, so I'll briefly mention, that Jim and Gadgets split some time ago, in mid-summer, over what I'd term "creative differences". Gadgets and Jim are presently in the final stages of negotiating a return of advance fees paid to Jim; we're hoping to sign off on the contract any day now, when it comes back to us, and settle things up. George also did the MegaTalk design and is a GENie "frequent user". (*grin*)

At present, the board is only for Mega-ST owners. However, we are remedying that as quickly as possible for you 520/1040 owners; I own several 520's as well, and want them to zoom too. I can't estimate time until I can announce that option until George gets over his New Year's hangover (*grin*).

To change back to "68000 mode", you must unplug the 68030 and plug in a supplied 68000 chip. This isn't a lot of fun, admittedly; however, designing the board to have both 68000 and 68030 would be prohibitively expensive, in our view.

The board also features the "George" connector, which is a complete 32-bit 33 mhz expansion connector for all sorts of interesting add-on cards we have up our sleeves, but are too modest to discuss now. Gosh, wouldn't it be nice if someone did a fast-RAM color video card...did I say that? No.

The board is supplied with an Atari TOS on it that is 68030 compatible. TOS 1.4 and below are not 68030 compatible; this is because Atari used some space saving techniques to fit TOS into 192K of chips -- which saved you beaucoup \$\$.

The new TOS is 256K long.

Why it's the way it is

We did much thinking on what ST owners needed, based off what we've seen at many shows and online on several systems. The two things that became clear were a) more memory and b) more speed. More memory is pretty obvious; applications from page layout to sound digitizing are starting to run out of headroom inside of 4 megabytes. I know, 4 megabytes seemed a lot a few years ago; it isn't anymore for many applications. Digital sound at 44-odd Khz eats up RAM in a hurry, for instance, as do bitmapped images in page layout, saved-up desk accessories in memory, or multiple programs in memory (like Revolver). And heck, everyone can use a 5 or so megabyte RAMdisk for those compiles, right? Spreadsheet users should particularly enjoy having 12 megs of RAM onhand. With the price of SIMMs at around \$40 per megabyte (per SIMM -- I have seen prices higher and lower, so it's about fair), it seemed a good idea to add 8 SIMM sockets to the ST.

On "more speed", the 68000 processor is limited to 16 mhz by its designers. Apparently, it can be pushed a

bit higher than that, but it's unreliable and causes intense chip heating. Anywho, the 68030 *starts* at 16 Mhz and goes up from there ... to 50 Mhz at the moment. The price gets steeper as the speed goes up, however.

The 68030 features many optimizations (for instance, shifts), "thinks" 4 bytes at a time instead of 2 in the 68000, has an important on-chip 512 byte cache (data & instruction), and the all-important MMU, which allows real magic in memory manipulation. Look for some very interesting software using the MMU.

Incidentally, we did not go with the brand-new 68040 because of cost (awesome) and known problems interfacing it to 68000-style machines.

The 8 megabytes of SIMM memory is physically mapped at \$0100 0000, which means, at the 16 megabyte border. With the MMU, the memory can be logically mapped to anywhere we like, which allows bigtime fun. This mapping matches that of the Atari TT machine, by the way, which really was an accident; we chose that location before learning of the TT's specs! However, it means that TT software that takes advantage of fastRAM will take advantage of our board's RAM, too, which is the sort of coincidence I really like. (The TT features either 4 or 16 megs of RAM at this same location, depending on what type SIMM you use.) Why did we go with fastRAM? Well, it sort of fell out naturally when we decided to give ST users the ultimate memory expansion...

It all works like this. In the ST, the up-to-4 megs of memory built in is shared between the 68000 processor and video, 50-50. You might say it's 16 Mhz memory, with 8 Mhz going to CPU and 8 Mhz going to video. Anyway, ANY access to this memory gets slowed down to 8 Mhz; you can't kick] video off the memory there. (Remember on the 8-bit computers, how going to graphics 7 or 8 would slow the processor—and turning video off sped it up? Same kind of thing).

When we added memory, we decided to make it as fast as possible for

the 68030. This means, you make it 32-bits "across" so the 68030 can grab that much in 1 request, you isolate it from video access so it is not slowed by video request, and if you really try, you make it burst-mode ready, which is a special 68030 thing where instructions are fetched at far higher speed than normal—if you comply with its requirements. We complied.

What this means for you is when running in fastRAM, on either TT or the Gadgets SST, you get very good performance compared to running out of video RAM. While I am not a benchmark fan, as a "for instance", on a 32 Mhz unit, you get between 2-3 X speed increase with Quick Index benchmarks when running in fastRAM; that's why we call it fastRAM. Add to that the 68030's native speed in that mode, and its internal 512 bytes of cache, and we see 800%—8 times—the speed of the ST, going up to 9 times in MOVE.L instructions, and 15 times (!) in shift instructions.

FastRAM is fast because it is dedicated to the 68030, and other chips can't kick the 68030 out of fastRAM, as they can do in normal 8 Mhz RAM. Hence, fastRAM has a few restrictions on it; for instance, you can't display a video image directly from fastRAM, nor do disk DMA to it. However, in my opinion, this is no big deal. That's what the low 4 megabytes of RAM are *for*—and if you need to do disk access to fastRAM, you use ST RAM as an in-between point. The 68030 is highly efficient at moving lots of data fast in block-copies. To the end user, all this means that it's no sweat.

Some programs will work directly with fastRAM with no changes. Others will not. Hence whether or not a program loads into fastRAM when you double-click on it, or whether it also uses fastRAM for memory block requests, can be configured for each additional programs. If you find something that breaks with fastRAM, big deal -- set it to load in ST RAM and don't worry about it. With many programs already working directly in fastRAM, and with the TT en-

couraging developers to make the slight changes necessary for the ones that break, we don't foresee a problem, just lots of fun.

Should you run a program in ST RAM, well, to be honest with you, beware. IF the program "caches" nicely, it will run very fast; our benchmarks show around 7-8 times faster than an ST. If the program does NOT "cache" nicely, it will not be much faster than an ST at all! We can't predict which programs will do what; some keep things in nice tight loops, which cache ok, others sperad out all over the placem, which slows down bigtime. For instance, when running in Mac emulation under Spectre, the drawing routines cache nicely; you'll see quite a "snap" in performance in Mac mode. (Even in ST mode, screen updates are instantaneous from the desktop).

We do not include a "cache" memory with the SST. This was a major design decision. We are very familiar with caches; for instance, I own both a T-16 and ADSpeed accelerator, which have 16K caches (and 16K of memory to make the cache work, for 32K total). The static RAM chips used in caches are very expensive, and we wanted this board to be as inexpensive as humanly possible; caches are very program-dependent in function (some work great, some break great); there is ALREADY a 512 byte cache built into the 68030; and finally, and best of all, according to our measurements, the 8 megabytes of memory in our SIMMS *match* the speed of cache memory, through George's careful tuning of the memory channel. Why settle for 16K of cache memory when you can get 8,000K, so to speak.

Anyhow, that's our baby, the 68030 SST. It gives you the ability to put 12 megabytes of RAM into your ST and accelerate it to very high speeds (certainly, speeds that are very competitive with the industry today; of the Mac II line, only the 40 Mhz IIx, at \$10K or so, outruns the SST). We see it as "doorstop insurance"; it keeps your ST speedy, gives snappy performance, is quite TT compat-

ible in its setup (a good thing with coming TT applications), and gives you the best ST compatibility we could do.

Atari says that about 80% of its software library works on the TT. We see no reason our board will differ from that figure. In fact, we have a thing or two we learned from fixing Mac programs that break on Spectre to try on this board in software to bring the percentage even higher, if possible.

One Note

There's been a disturbing trend recently towards "developer wars"; this refers to open sniping and complaints from competing developers about their products. I've seen it and regard it as destructive to the ST market as a whole. Gadgets is committed to **not** engaging in said "developer wars". Even though there is competition in the 68030 accelerator market, we feel that our product is strong enough for us to just state the facts, and let the informed user make the decision. I've given the board specs as best as I know them and as best as I can translate them from techno into English; I'm sure I've forgotten a thing or two, and will answer any questions. But please, we've stated our decision philosophy, and why this board is the way that it is; we welcome discussion, but let's keep it at an informational level, please.

I would like to thank the many, many people that showed up for the initial "68030" discussion conference just one year ago, and tell them that we're here, partly as the result of the enthusiasm shown for the idea a year ago. (The same thing happened on Spectre, by the way. I recommend the idea of holding a conference for product ideas to other developers). The people who have supported Gadgets' products have given us enough seed money to give you more and better products, and we appreciate it very much.

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We project availability of the SST in first quarter 1991, and that's not a "flexible first quarter", either. The board design is finished; it needs to go through a Beta test to uncover anything we might have missed, but SST boards have been up and running since before the WAACE show in October, where we showed it running for the first time. ♣

—thanks,
Dave Small
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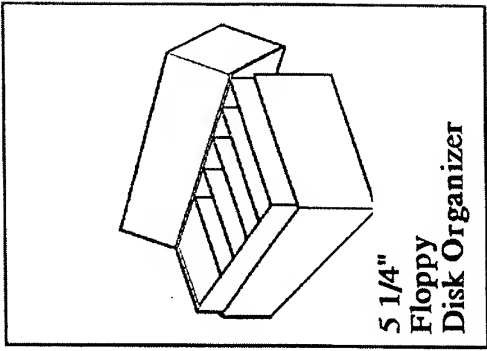
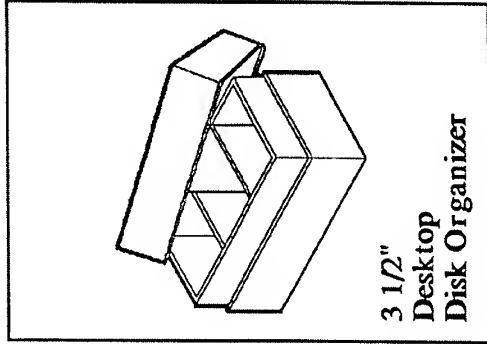
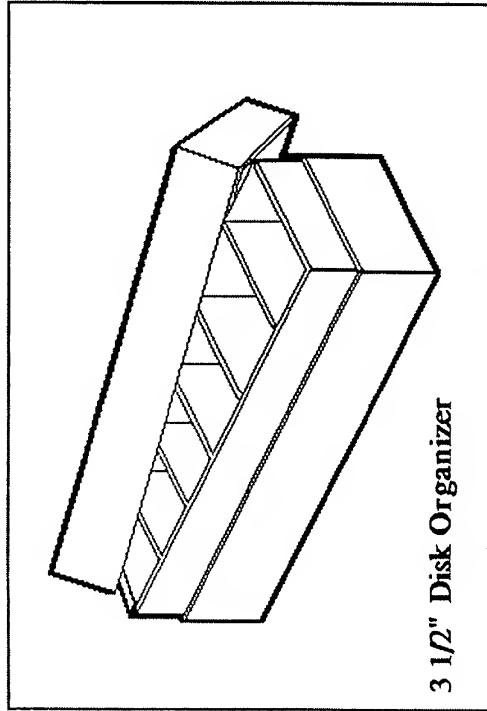
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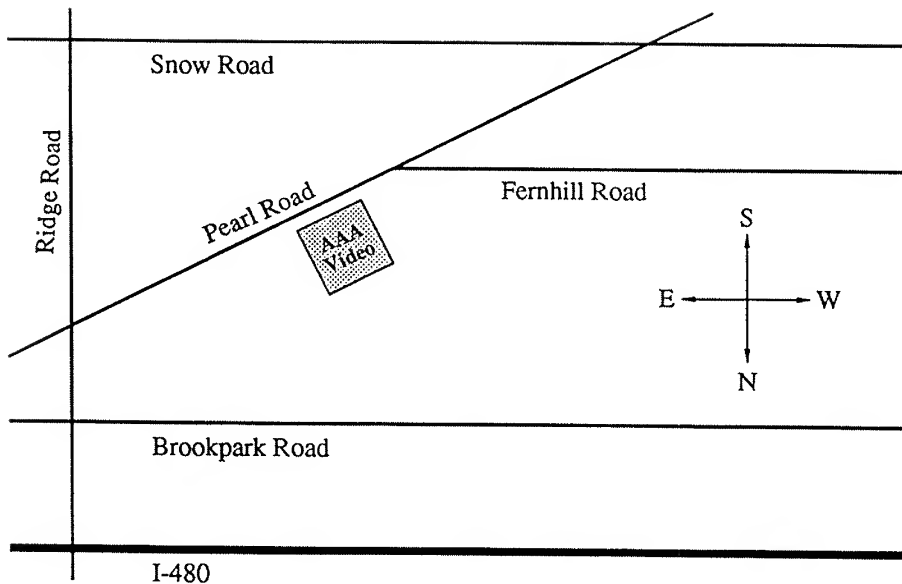
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